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ABSTRACT

The author describes a Piaget based curriculum involving three main themes (classification, number measurement/space, and seriation) for young mentally retarded children. Students solve problems by dcing something physically and mentally to the data, shuffling the facts about in their minds, so that they will ccme to a logical sclution. Language is used in the program tc support the mental operations so that as a child is being trained in a particular mental operatien, the teacher models the appropriate language structures. (SBH)

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PIAGET'S DEVELOPMENTAL THEORIES USED IN AN EARLY CHILDHOOD PROGRAM FOR MENTALLY RETARDED STUDENTS

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Today, I would like to address my lecture to you about a Piaget-based curriculum involving three main themes: -- classification; number,Measurement, space; and seriation. I have used Piaget's theories during the past six years with mentally retarded students and I have found, through pre-test and post-test, that there is growth in these developmental learning theories for the early childhood program. The objective of this program is to supplement the curriculum with cognitive skills that will make the practical more intellectually challenging. The core of the Piaget program is a short, structural training session that I conduct several times a week with four or five mentally retarded students. These students range in C.A. 5-8 and M.A. 2-5. During these training sessions, students work with concrete materials, solving problems designed to foster development of intellectual skills or operations in classification, number, measurement, space, and seriation. The idea is to have the students solve a problem <u>not by judging</u> in terms of how something looks to him, but <u>by doing</u> something physically and mentally to the data, shuffling the facts about in his mind, so that he will come to a logical solution. That is the purpose for bringing some of our students with me today, so that you may see <u>the doing</u>. The mental operations involved have been described by Piaget and his co-workers in the order in which they emerge in the intellectual development of the child. In addition, objectives are also described in terms of language. We use language in the program to support the mental operations, so that, as a child is being trained in a particular mental operation,

the teacher models for him the appropriate language structures. This is especially important for the mentally retarded child who has mental and language delay. A short training period each day will not, by itself, produce these results but what the training sessions do is to bring to the consciousness of both teacher and child certain ways of using the mind to solve problems that neither had thought of befort this training. Since these sessions are to be enjoyed, they should be carried on in an informal, zestful way with each child actively engaged in working with the materials at his own pace. It is only as the child thinks about a problem, changing what he sees in his mind, that he convinces himself of the logic of certain problem solutions and comes to be more logical in his thinking.

I begin each school year with six weeks of daily sessions involving Piaget's theories of learning. We spend two twenty minute sessions each day. After that, for the remainder of the year, we have two twenty minute sessions each Friday to continue these theories. I have found the retarded students more alert and interested after the sessions. They look for ways to use their cognitive skills on a daily basis. These students are educable and trainable in the IQ range of 35-60. I would like to give just a few facts about my reason for speaking today and also for the use of these theories.

I became interested in early education for the retardedwhen I was studying for my Master's Degree. I began my first experience with the retarded in a pre-school program. I decided to develop my Thesis for graduate school on Piaget's theory of conservation of number. While reading and preparing this work.

I became interested in all the theories for early learning and so put them towork in my classroom.

As educators, we all have a knowledge of Jean Piaget and so I would address myself only to those points that are important to my topic. Piaget has definitely given us a developmental theory. With this theory we know that children's thought processes change within a certain age range. Piaget tends to think that all children go through the same stages at the same ages. These developmental stages are described as sensorimotor which begins at birth. An example of this stage is the grasping reflex. During this period, the infant lays the foundation for later thought processes. Actions become internalized. The second stage begins at eighteen months and extends to seven years of age. I am mostly interested in the early part of this stage since this involves the mental age of the students I am working with in these skills. Language is developing at this stage. Language and thought are becoming inter-related. From thinking only in images, the child now thinks in words. He can express his ideas in words and communicate with others. At this level, the child is asked to perform the task and explain what he is doing and why he is doing it. The pre-operational level of 4 to 7 years allows the child to make judgments in terms of how things look to him. The child centers on one variable only, usually the variable that stands out visually. The child has difficulty in realizingthat an object can possess more than one property and thus can belong to several classes at the same time. The next stage is the stage of concrete operations from 7 to 11 years.

Pre-school education should encourage the growth of intelligence. Piaget's theories give insight to how this might be accomplished. Logical thinking develops as we use our mind to acquire knowledge and we need certain ways to acquire this knowledge. Basic to this knowledge is involvement in activity. The child must do something for himself. Piaget uses two mechanisms in equilibration: assimilation and accomodation. Assimilation is when a child uses information from experience to assimilate an object or situation. Accomodation means to adapt information in an active way. One must make up his mind about something, make a choice. This is a learning process for all but especially for the retarded.

Piaget believes in the development of intellectual ability, realizing that motivation and self-concept are involved. This is developed by some free-time activity during the day when children can learn individually or from one another. At the level I am working with in this retarded program, the child is at the early pre-operational stage. The child is just beginning to sort out his world and develop notions of space and number. This is a developed program where the child engages in activity in a step-by-step development. Some ideas of Classification are: simple sorting true classification, multiplicative classification, all-some classification, all-some relation, and class-inclusion relation.

Today, I will have the students I brought with me demonstrate simple sorting: grouping beads and blocks according to color, shape, and size. Some space, number and measurement skills are: physical correspondence of objects on a one-to-one basis, one-to-one correspondence, conservation of quantity, conservation of the whole, conservation of area, and transformation of perspective.

Today, I will have the students demonstrate conservation of number with one-to-one correspondence.

Seriation skills include: ordering objects in a series, seriation and visual representation and seriation of geometric shapes. We will see the students seriate geometric shapes. Some important elements of Piaget's theory, assimilation, and accomodation are needed for intelligence to grow; the child needs to use activity to learn; discoveries by the child add to his experience of learning; the teacher guides the child but doesn't tell the child the correct answer. Language competence is the key to helping our retarded students develop learning skills.

Piaget points out the importance of language and logic. During the sensorimotor period, the child acts upon objects and begins the logical operation. When actions begin to represent thought language becomes possible. The sessions conducted each week include: conversation between teacher and student, between student and other students; good speech by me for the child to model upon; free play and interaction encourage good language; language should contribute to logical thinking; language needs a pleasant, warm and supportive atmosphere in which to develop.

I feel that I have given a short background to refresh our memory of the theories of Piaget enough to enable us to understand the demonstration we will see in each of the areas listed. The students are anxious to be a part of this day and will be glad for your interaction and attention. They are still in the learning stage and will give right and wrong responses, no responses and interesting responses.

We have six students ranging in age from 5 to 8 with mental ages of 2 to 5. The theories I plan to demonstrate are according to Piaget's early pre-operational stage of 1½ to 4.

There is an overlapping of this stage with our special students that leads them into the pre-operational stage of 4 to 7 years.

CLASSIFICATION : Children will identify properties of objects and match objects of more than one property.

Children will find all the yellow blocks and put them in the dish.

Children will find all the red beads and put them in the dish.

Children will find all the blue beads and put them in the dish.

As the students perform this activity, I will encourage language and question what each one is doing: "Show me the yellow block". "What are you doing?" "I am putting the blue bead in the dish." I will question for color.

Children put all the beads and blocks in one dish.

Children will put blocks in one dish and beads in another dish.

As the students do this , I will continue to ask them to explain shapes.

Children put all beads and blocks into one dish.

Children put large yellow blocks into dish and small yellow blocks into another dish.

Children put large blue beads into one dish and small blue beads into another dish.

As the students do this, I will question for size.

Thus this activity gives some indication of teaching the properties of shape, color, and size in the classification theory of Piaget. For students who are more advanced, I would have them copy a pattern of beads and blocks. The auditory or visual channel can be used to have children develop this skill.

NUMBER: Piaget has always been interested in mathematical theories. We need to know numbers to exist in our everyday lives. Conservation of number is just one important concept needed. This session demonstrates one-to-one correspondence.

Children receive pennies and objects.

I give one penny for one object.

I give one object for one penny.

Children match one penny and one object.

Put pennies in a pile and ask if this is the same amount.

Children must put objects and pennies in physical contact with each other. This is the first procedure to establish physical correspondence with one-to-one.

SERIATION: Children will arrange objects according to size or some kind of order.

Today, we will use geometric shapes.

There are four shapes: triangle, square, pentagon, and hexagon.

There are four sizes.

Children will tell how shapes differ. Children will tell shape by the number of sides.

Children will arrange them in size (one group).

Children will develop language by telling the number of sides each shape has.

Children will seriate all four shapes and sets of sizes. This skill will allow the child to use trial and error to arrive at the correct answer.